Bonneville Power Administration
Fish and Wildlife Program FY99 Proposal

Section 1. General administrative information

Burlington Bottoms Wildlife Mitigation Project

Bonneville project number, if an ongoing project 9107800

Business name of agency, institution or organization requesting funding
OREGON DEPARTMENT OF FISH AND WILDLIFE

Business acronym (if appropriate) ODF&W

Proposal contact person or principal investigator:

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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name

NPPC Program Measure Number(s) which this project addresses.
11.3F.1

NMFS Biological Opinion Number(s) which this project addresses.
N/A

Other planning document references.
N/A

Subbasin.
Willamette River Basin of the Lower Columbia River Basin

Short description.
Maintenance and enhancement activities for wildlife habitat are being conducted by the Oregon Department of Fish and Wildlife, in order to meet the goals and objectives of the management plan, which includes protection of native fish and wildlife species

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
	Anadromous fish		Construction		Watershed
	Resident fish	+	O & M		Biodiversity/genetics
X	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate	+	Monitoring/eval.		Flow/survival
	Other	X	Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement	X	Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
92059	Willow Creek Mitigation Project	Wildlife mitigation project under Council's program managed by the Nature Conservancy in southern Willamette Valley
5519500	Willamette Basin Project	Willamette Basin acquisition targets acquisition of critical fish and wildlife habitat in Willamette Basin
9565	Assessing OR Trust Agreement Using Gap Analysis	Tool used to analyze and rank potential projects in Basin for implementation.
9284	OR Trust Agreement Planning Project	Methods developed for assembling trust agreement and list of potential projects.
9705900	Securing Wildlife Mitigation Sites - Oregon	Umbrella project which provides project location, priority, and data tracking.

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Maintain and enhance wildlife habitat.	a	Includes control and/or removal of non-native plant populations, and planting of native plant species.
2	Gather information on certain wildlife species and habitat use; this information will be helpful in directing enhancement activities.	a	Survey and monitor certain wildlife species, including neotropical migratory songbirds and amphibians (i.e. red-legged frog), including habitat use, etc.
		b	Describe and document condition of habitat types used by species included in task a.
3	Continue interim custodial management and oversight of the area.	a	Conduct weekly visits to site; monitor off-site activities which may affect on-site water quality, etc (i.e. quarry opeations, etc.).
1		b	Replace burned timber bridge in order to access east portion of property to conduct enhancement activities.

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	6/1998	10/1999	80.00%
2	5/1998	11/1999	5.00%
3	1/1998	12/1999	15.00%
			100.%
			TOTAL 200.00%

Schedule constraints.
Anticipated constraints include 1) delays in scheduling enhancement work due to unavailability of field crew(s); and 2) no access to a particular area due to flood conditions.

Completion date.
- Enhancement work; it is anticipated to be the year 2001.

- Operations and maintenance; The project will require O&M funds to ensure that habitat values are maintained as long as the hydro projects are in operation; F&W program 113C.1.

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel		$27,000
Fringe benefits		$10,260
Supplies, materials, non-expendable property	Includes purchase of native plants.	$3,000
Operations & maintenance	Includes hiring of field crews.	$4,000
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		$ 0
PIT tags	# of tags:	$ 0
Travel	Mileage reimbursement for personnel and volunteers	$2,500
Indirect costs	Overhead	$10,755
Subcontracts		$ 0
Other	TOTAL	$57,515
TOTAL		$115,030

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	$62,000	$65,000	$68,000	$71,000
O&M as % of total	15.00%	25.00%	30.00%	40.00%

Section 6. Abstract

Burlington Bottoms was purchased in 1991 by the BPA to mitigate for wildlife habitat losses in the Willamette Basin of the lower Columbia River Basin. Overall project goals and objectives include: 1) the maintenance and enhancement of wildlife habitat typical of that found in the Willamette and lower Columbia River basins; 2) maintaining a diversity of fish and wildlife and fish and wildlife habitat typical of a riverine floodplain; 3) maintain or improve water quality; and 4) meet BPA's obligation under provisions of the Pacific NW Electric Power Planning and Conservation Act of 1980.

The methods used to control non-native invasive plant populations include the use of mechanical equipment such as a field mower in upland habitats, and manpower supplied

by field crews to assist in the hand removal of non-native plant species. In addition, the installation of a water control structure is being considered in order to control water levels to flood out invasive non-native plant species such as reed canary grass. Coordination with other agencies, groups, etc. will also continue in order to share information and explore all avenues for new methods to carry out enhancement work.

The expected outcome from the above proposed methods includes: 1)the enhancement of wildlife habitat, with a resulting increase in habitat units as projected in the habitat evaluation (HEP) completed in 1993 (see separate report titled "Burlington Bottoms Habitat Evaluation", prepared by ODF&W, August, 1993); and 2) the site is maintained according to direction from the management plan. Enhancement projects began in 1996, with projects being carried out on a yearly basis, and are expected to be completed by fiscal year 2001, at which time operations and maintenance of the habitat would ensure the maintenance of existing habitat values over the lifetime of the project.

Results of the enhancement activities will be evaluated and monitored by 1) conducting a modified HEP in order to analyze changes in habitat units over time, 2) analyzing species presence and occurrence both before, during, and after project implementation in response to habitat enhancement (methods used include point count surveys and monitoring and mist netting), and 3) evaluate cost effectiveness of comparative methodologies used during the implementation phase.

Section 7. Project description

a. Technical and/or scientific background.

The Burlington Bottoms site was purchased by the BPA in 1991 as mitigation for habitat lost along the lower Willamette and Columbia River basins, and as such was one of the first sites in Oregon under the Northwest Power Planning Council Agreement. Goals and objectives of the project include maintaining and enhancing wildlife habitat, maintaining a diversity of wildlife habitat typical of a riverine floodplain, meeting BPA's obligation under provisions of the Pacific Northwest Electric Power Planning and Conservation Act of 1980, and conducting oversight of the area according to the managment plan. Results of this project, in particular results from enhancement activities, may serve as a template for testing different management techniques for other enhancement projects in the Willamette and lower Columbia River basins.

b. Proposal objectives.

- MEASURABLE OBJECTIAVES AND OUTCOMES INCLUDE:

1) Maintain and enhance wildlife habitat at Burlington Bottoms; outcome includes conducting a modified habitat evaluation (HEP) after enhancement activities are

completed which would reflect changes in habitat (measured in habitat units) values over time.

2) Maintain a diversity of wildlife species typical of a riverine floodplain.

Products include the following reports: Modified Habitat Analysis (HEP), Year End Report for each year the project is on-going (includes results of management activities), Results of the Surveys and Monitoring of Neotropical Migratory Songbirds, and Results of Surveys and Monitoring of Amphibians and Reptiles.

c. Rationale and significance to Regional Programs.

Management and enhancement of the wildlife habitat is consistent with and would contribute toward the goal of mitigation for wildlife losses and inundation of wildlife habitat losses due to the construction of Federal dams in the lower Columbia and Willamette River basins. Specific project objectives (listed in section b above) have been developed in order to be consistent with the Fish and Wildlife Program objectives.

Relevant projects in progress in the Willamette and Columbia River Basins include:

1) the Willow Creek Mitigation Project, which also involves maintenance and enhancement activities to improve wildlife habitat. Since Burlington Bottoms was the first mitigation site in the Willamette Basin, it has served as a template for the development of management strategies for sites such as Willow Creek;

2) the Willamette Basin Project, which also involves maintenance and enhancement activities to improve fish and wildlife habitat.

d. Project history

- Projects reports include: 1) Burlington Bottoms Habitat Evaluation (HEP), 1993; 2) Results of Neotropical Migratory Landbird Surveys at Burlington Bottoms, 1995-1997; 3) Burlington Bottoms Annual Reports 1995-1997; and 4) Results of Breeding and Overwintering Surveys and Monitoring for Western Painted and Pond Turtles at Burlington Bottoms, 1997-1998.

- Summary of major results achieved include: 1) implementation of management plan goals and objectives, including maintenance and enhancement of targeted wildlife habitat areas in 1996 and 1997; 2) collecting baseline data on wildlife species and habitat use, including 3 species listed as Sensitive in the State of Oregon; and 3) the development and implementation of projects on environmental education and research on the site, which help to promote local community participation and involvement in the collection and dissemination of biological information.

- An adaptive management approach affords the opportunity to alter management activities over time, in response to the success or failure of management actions. For example, past enhancement activities, which included the use of mechanical equipment or handpower, have been successful for removal of non-native plant species. They can also be labor intensive and in some cases may be an on-going battle for the lifetime of the project against invasive plant species. Recent events such as the 1996 flood and the high water levels in 1997, were more effective in controlling and in some cases eradicating non-native plant species than all previous management attempts. The knowledge gained from the biological impacts of these events will be used to investigate other means of eradicating non-native species, which could include the installation of a water control in the future.

- This projects has been ongoing since 1993; past costs include the following:

- 1993: $88,844.00
- 1994: $20,000.00
- 1995: $64,394.00
- 1996: $50,012.00
- 1997: $49,091.00

e. Methods.

1) Tasks include the removal of non-native plant populations, and the planting of native plant species. Effectiveness and success of these tasks will be evaluated by conducting a modified HEP which will analyze changes in habitat values over time. This method utilizes a species/habitat approach for quantifying relative habitat values. Monitoring will include the use of established photo points and transect line surveys to analyze changes and compare data over time. Results expected include an increase in habitat units in targeted areas due to enhancement activities, and an increase in the quality of wildlife habitat.
2) How this objective is met will in part depend on the success of tasks listed under #1 above. In addition, other related tasks include surveys and monitoring of wildlife species on the site, and the control and/or removal of non-native wildlife species such as bullfrog and carp. Critical assumptions include that the latter task will be on-going in nature since this is not a closed system and non-native species will continue to move into the site from other areas.

Methods for monitoring and evaluating species diversity include conducting point count surveys for songbirds, conducting surveys for turtles which include capturing and marking of all animals, and using a habitat based method for monitoring pond-breeding amphibians (i.e. red-legged frogs). Data analysis will include the use of descriptive statistics (species richness, relative abundance) since they provide the basic information for comparing attributes through time at one site or for comparison among different sites or habitats. Results expected include information on wildlife species and utilization of

habitat at Burlington Bottoms over time, and how managment activities such as enhancement of habitat affects species diversity and habitat use.

f. Facilities and equipment.

The present facilities and equipment used in this project are suitable and adequate for the job. It is not anticipated that special or high-cost equipment will be needed at the present time, but it may be needed in the future due to unforseen circumstances.

g. References.

UNPUBLISHED REPORTS:

- Beilke, S.B. ODF&W. 1993. Burlington Bottoms Habitat Evaluation. ODF&W. Clackamas, Oregon
- Beilke, S.B. ODF&W, 1995, 1996, & 1997. Report on Surveys and Monitoring of Neotropical Migratory Landbirds at Burlington Bottoms. ODF&W, Clackamas, Oregon

- Beilke, S.B. ODF&W. 1997. Preliminary Summary of Western Painted and Pond Turtle Surveys at Burlington Bottoms. ODF&W, Clackamas, Oregon

- Beilke, S.B. ODF&W, 1995-1997. Burlington Bottoms Annual Report. ODF&W, Clackamas, Oregon

REFERENCES:

Beilke, S.B. ODF&W. 1994. Burlington Bottoms Management Plan/Environmental Assessment. Bonneville Power Administration, Portland, Oregon.

Ingles, L.G. 1965. Mammals of the Pacific Stataes. 3rd Ed. Stanford University Press,
California. 506pp.

Northwest Power Planning Council. 1993. Resident Fish and Wildlife Amendments to
the Columbia River Basin Fish and Wildlife Program (Phase 4).

Oregon Natural Heritage Database. 1993. Rare, Threatened and Endangered Plants and Animals of Oregon. The Nature Conservancy, Portland, Oregon.

Oregon Statewide Planning Program. 1973. ORS 197.225-.245. Adopted as administrative rules (OAR 660 Div. 15).

Section 8. Relationships to other projects

Burlington Bottoms was one of the first mitigations sites in Oregon, and thus has served as a template for the development of management goals and objectives (including enhancement activities) for other current and potential mitigation sites in the state; this includes both the Willow Creek Mitigation site and the Confluence of the Coast and Middle Forks of the Willamette River. The latter is part of the larger and ongoing Willamette Basin Project, which is actively pursuing easements, cooperative management plans, enhancement actions and acquisitions throughout the Basin.

Section 9. Key personnel

- Susan Beilke, Wildlife Biologist and Project Coordinator for Burlington Bottoms; Temporary employee,40 hrs/week.
- Duties include designing, implementing and supervising all projects for the site, including maintenance and enhancement activities, surveys and monitoring of wildlife species, and research and educational projects. Also coordinates with various federal, state and local agencies and private groups regarding the aforementioned activities.
Related experience
includes conducting habitat evaluation procedures (HEP) and making recommendations for management alternatives for other mitigation sites in the Willamette River basin, including the Willow Creek Mitigation site and the Confluence of the Coast and Middle Forks of the Willamette area.

- Greg Sieglitz, Wildlife Diversity Program-Assistant Staff Wildlife Biologist; Full time staff biologist, 40 hrs./week.
- Duties include acting as agency liason and spokesperson representing ODF&W at regional Wildlife Working Group, Columbia Basin Fish and Wildlife Authority, Oregon Wildlife Coalition, and other meetings; currently project leader for two Bonneville Power Administration Mitigation Projects including the Willamette Basin Mitigation Program, and the Assessing Oregon Trust Agreement Planning Project Using GAP Analysis.

- RESUMES:

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PROFESSIONAL EXPERIENCE:

Wildlife Biologist - **Oregon Department of Fish and Wildlife (4/93 - present)**
Columbia Region Office, Clackamas, Oregon

- Project Coordinator for Burlington Bottoms wetland mitigation site. My past and present responsibilities include conducting wildlife surveys and habitat maintenance and enhancement projects; Coordinated and conducted Habitat Evaluation Procedures (HEP) analysis and Alternatives Team processes and authored report on findings; co-authored the environmental analysis and management plan; Coordinate and meet with local, state, and federal and private groups regarding related planning and environmental issues; Conduct research and environmental education projects involving local high school and college students and individuals in the community.

- Assist Columbia Region Wildlife Diversity Biologist. Participated in wildlife surveys in the region for listed species including bald eagle, peregrine falcon and snowy plover; presented wildlife related educational programs at local schools.

Assistant District Wildlife Biologist - **Mt. Hood National Forest (10/89 - 10/92)**
Columbia Gorge Ranger District, Corbett, Oregon

- Conducted wildlife and habitat surveys and prepared environmental analysis reports. Managed the planning, implementation, and monitoring of spotted owl inventory program; Trained and supervised spotted owl survey team; Participated in timber sale planning and developed related wildlife improvement projects; Reviewed trail construction and other projects regarding wildlife concerns; Developed and presented educational programs in wildlife conservation to local schools.

EDUCATION:

- Portland State University, Portland, Oregon, Bachelor of Science in Biology, 1987
- Evergreen State College, Olympia, Washington, 1982-1983

Gregory B. Sieglitz

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Education:

Oregon State Univ., Corvallis, Oregon. Bachelor of Science, Wildlife Science, 1990.

Oregon State Univ., Corvallis, Oregon. One year of Master of Science Program. Department of Geosciences, 1994-1995.

Professional Experience:

10/95 to present **Oregon Department of Fish and Wildlife, Corvallis, Oregon**
Wildlife Diversity Program-Assistant Staff Wildlife Biologist
Project leader for two Bonneville Power Administration Mitigation Projects: - Willamette Basin Mitigation Program.
-Assessing Oregon Trust Agreement Planning Project Using GAP Analysis.
Project leader for statewide Spotted Owl, Marbled Murrelet and Western Pond Turtle databases.
Performed duties of agency liason and spokesperson representing ODFW at regional Wildlife Working Group, Columbia Basin Fish and Wildlife Authority, Oregon Wildlife Coalition, and other meetings.
Facilitator of Oregon Wildlife Coalition, BPA GAP Analysis, and Willamette Valley Mitigation meetings.
Coordinated Habitat Evaluation Procedures and Alternatives Team processes. Authored reports, managed budgets, developed contracts, hired and supervised, and gave presentations.
GIS, GPS, and multiple computer programs for manipulating, analyzing, and portraying data.

5/95 to 10/95 **Oregon Department of Fish and Wildlife,Corvallis, Oregon**
Wildlife Diversity Program-Wildlife Biologist
Compiled literature, maps, and reports pertaining to natural resources along most major highways in Oregon.
Held meetings with ODFW and other natural resource professionals.
Field checked highway corridors.
Developed preliminary assessments of natural resource along highways.
Wrote reports detailing findings along mile-by-mile segments of highways.
Mapped natural resources.

Developed prototype GPS and GIS tools to assist with the highway corridor assessment process.

Section 10. Information/technology transfer

Technical information obtained from this project will be disseminated in several ways, including the generating and distribution of reports on enhancement projects and wildlife surveys and monitoring results which will be available to other agencies and the public in general. Information will also be incorporated into present and future mitigation sites to make the best use of current findings for planning and implementing enhancement projects, which should also make projects more cost effective over time.